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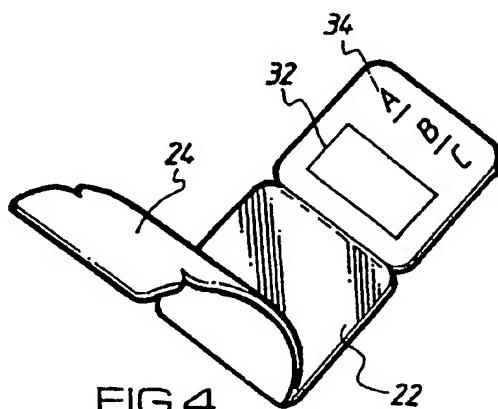
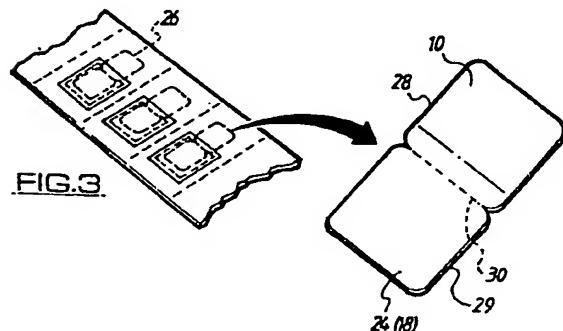
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(54) Security card produced as continuous stationery

(57) A security card is produced as a continuous stationary item and comprises two sections 28, 29 which are hinged together at 30. A plastic backing sheet 18 bridges the sections and on one section 28 a substrate 10 for receiving information is adhered to the plastic backing sheet, and on the other section 29 there is pressure sensitive adhesive 22 which is protected by release paper 24. To use the card, the user applies the security information 32, 34 to the substrate, the release paper 24 is removed exposing the adhesive 22, and the adhesive carrying part of the plastic sheet is folded onto the substrate 10 trapping the security information in a card laminate.



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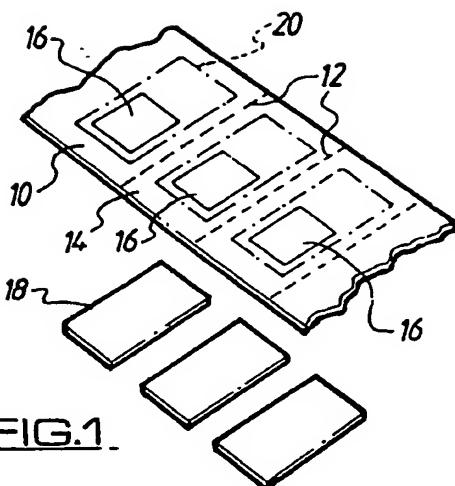


FIG.1.

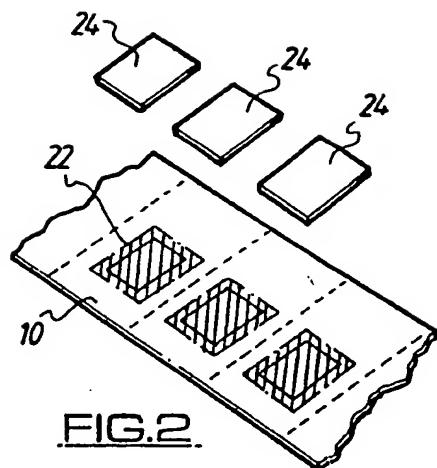


FIG.2.

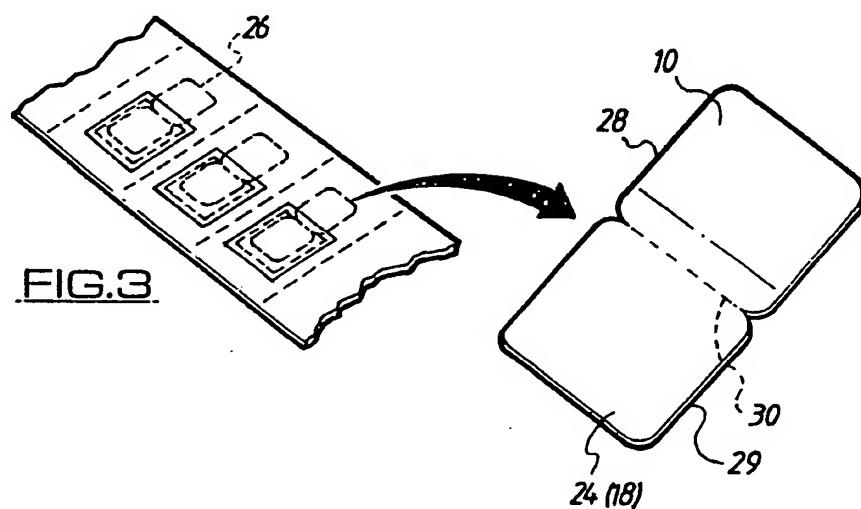


FIG.3.

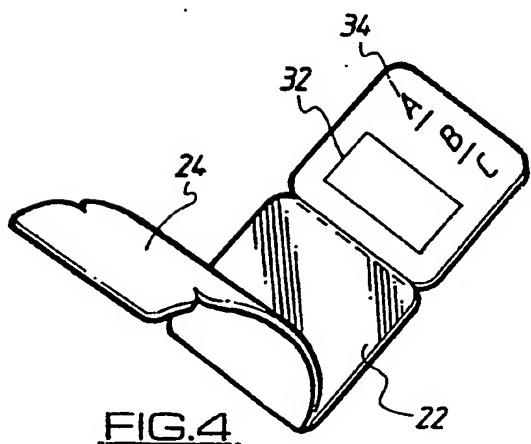


FIG.4.

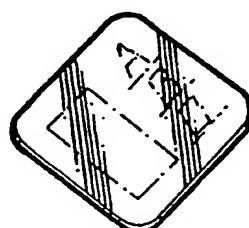


FIG.5.

Improvements Relating to Security Cards

This invention relates to security cards, which expression is intended to mean any or various kind of personal cards carrying identifying information specifically related to the card or bearer of the card. The identifying information, referred to hereinafter as the "active data" may take any form such as a number, bar code, photograph, signature or the like.

The card may also carry other information, referred to herein as "static data" which again may take any form and may comprise a design pattern, instructural information and so on, which probably will be common for example to a large number of similar cards.

Common examples of security cards which are in use are credit cards, cheque guarantee cards, identity cards, membership cards, which are all hereinafter referred to collectively as security cards, but such expression should be construed accordingly.

Whilst security cards tend to have different levels of security, for example a credit card is required to have a high degree of security, and consequently is manufactured in a robust plastics material, some other cards may need only a lower level of security e.g. a photograph or a number, and the cards may be constructed of a less robust material, as they may require to function for a shorter period of time.

Whilst the present invention in its preferred form has particular application to the lower level security cards, it can be applied to all security cards, and at least in the preferred form, the card according to the invention provides security for the active data on the one hand, and/or

protection for the data so that the card will have a long life span.

There are of course known security cards for various purposes, and the rigid plastic credit cards have been mentioned above. Another form of security card is in the form of a cardboard or paper sheet to one edge of which is fixed by adhesive a transparent covering sheet, as disclosed in United Kingdom Patent 1569850. To the inner surface of the plastic sheet is a pressure sensitive adhesive, and this is covered by means of a silicone coated release paper. To use the card, the user applies the active information to the inner face of the cardboard or paper sheet, following which the silicone release sheet is removed, following which the plastic covering sheet is applied over the active information and is adhered thereto and to the surrounding area of the cardboard or paper sheet so as to form a transparent seal over the active information, preventing its subsequent removal either accidentally or on purpose, and also protecting that information from abrasion and defacement. The security of this card is as can be appreciated of a lower value insofar as the covering sheet can be delaminated from the paper or card sheet, but such delamination is difficult, and with the passage of time becomes more difficult as the adhesive cures.

The advantage of the security cards as described in the said British Patent 1569850 is that when the cards are produced and are sent to the user, for example a football club or library they will issue the cards as membership cards, and it is not necessary after the active information has been added e.g. the particulars of a member, to return the cards to the original manufacturer for adding of a laminating covering.

However, the aforesaid described cards are difficult to

manufacture at high speed and on a bulk basis, and the present invention provides a security card which by its construction enables its manufacture at high speed and in large numbers. The invention also provides a method of manufacturing the cards.

According to the present invention in a first aspect, there is provided a security card comprising first and second elements interconnected so as to be foldable into face to face relationship so that each element has an inner side and a outer side, the first element being of a covering material enabling the second element to be viewed therethrough directly (or electrically or magnetically or the like) when the elements are folded face to face and the second element comprising a substrate material laminated to covering material integral with the covering material of the first element, the inner surface of the first element being provided with pressure sensitive adhesive covered by means of a removable release web, whereby active information placed upon the inner surface of the second element may be viewed through the first element after the release web is removed to reveal the adhesive, and the first and second elements are folded into face to face relationship so as to be sealed together by means of the adhesive.

Preferably, the covering material is a plastics film. The film is transparent when said viewing is by the eye or it may be opaque when viewing is by viewing apparatus.

Preferably, the said plastic film comprises the entire first element and extends over the entire surface area of the second element and defines its outer surface so that, in the resulting security card, both faces of the card are defined by protective plastic film.

The first and second elements preferably are of rectangular configuration and are of identical outer dimension, and are directly hinged together by means of a fold line defined in the plastic film.

According to another aspect of the invention there is provided a security card produced in a flat form in a continuous stationery operation, said card comprising several flat layers as follows:-

- a) a substrate sheet,
- b) a covering sheet laminated to one side of the substrate sheet and having a cover portion which overhangs the substrate sheet, and
- c) a release sheet adhered to the cover portion to cover adhesive on one side of the cover portion,
whereby to use the card, the release sheet is removed and the cover portion is adhered to the substrate web by having its adhesive side folded onto the substrate sheet to cover and render secure information placed on the substrate web.

Preferably, the covering sheet covers the entire side of the substrate web, and the cover portion may have a hinge line formed therein. The covering sheet preferably is of abrasion resistant, clear plastics material so that it forms a tough outer jacket for the card.

The adhesive and release sheet are preferably on the same side of the covering sheet as that which is laminated to the substrate web.

By constructing the security card in accordance with the invention, it will be understood that the cards can be produced within or as continuous stationery forms, and therefore high speed production is possible.

In accordance with a further aspect of the invention there is provided a method of producing the security cards as aforesaid, wherein the cards are produced as continuous stationery on a substrate web in accordance with the following sequence:-

- a) apertures are provided in the web at spaced intervals,
- b) to opposite sides of the web and covering said apertures are applied the covering material and a release web so that the covering material and release web are adhered by adhesive through said apertures and at least the covering material is also adhered to the substrate web, and
- c) die cutting the web to define the first and second card elements, and preferably a hinge therebetween, so that the first elements lie within the boundaries of said apertures and the second elements include said substrate web and at least a portion of said covering material.

An embodiment of present invention will now be described, by way of example, with reference to the accompanying diagrammatic drawings, wherein:-

Fig. 1 is a perspective view illustrating a portion of continuous stationery web to be formed into cards according to the embodiment of the invention;

Fig. 2 shows the web portion of Fig. 1 but at a subsequent stage of the operation;

Fig. 3 shows the web of Fig. 2 at a subsequent stage of the operation and also illustrates in enlarged view how a card may be removed from the web;

Fig. 4 shows the card of Fig. 3 during its use; and

Fig. 5 shows the finally sealed card.

Referring to the drawings, and firstly to Figs. 1 - 3, the cards according to the invention are produced in this embodiment in continuous stationery in that a substrate web 10 of paper or the like is processed on a continuous basis, and is sub-divided for example by tear lines 12 into individual panels 14 in which the individual cards are formed.

The web 10 may be of any appropriate material such as paper or card, and it may be provided with sprocket holes on the side edges thereof for the feeding of the web through the continuous stationery machine.

It should therefore be borne in mind that in the following description, as applied to Figs. 1 - 3, the web is driven through the machine and the various process steps are effected during the travel of the web in this fashion so that the resulting web contains a plurality of security cards. The web may typically when processed be folded into concertina fashion for transportation. Each of the security cards formed in accordance with the embodiment of the invention will be provided with static data printed on or otherwise applied thereto, the principle of these cards being that the active data e.g. a signature or a photograph is applied individually when the cards are to be used as will be explained hereinafter.

In the first stage of processing of the web 10 in Fig. 1, apertures at equally spaced intervals are cut in the web, such apertures being indicated by reference numeral 16. The apertures 16 as shown are of rectangular configuration, and are cut one in each of the panels 14.

In the next stage of processing, the panels 16 are covered by means of covering sheets 18 in this example of clear plastics material. These sheets 18 are larger than the apertures 16 as indicated by chain dotted lines 20 which show the sheets 18 in position on the web, and the sheets 18 are laminated to the web by means of adhesive or heat sealing or any other means.

The sheets 18 are applied in the illustration to the underside of web 10.

Moving now to Fig. 2, in the next stage of operation, patches of adhesive 22 are applied to the top side of the web 10 so as to completely cover the apertures 16 so that adhesive will be applied to the exposed surfaces of the sheets 18 through the apertures 16. The adhesive patches 22 are slightly larger than the aperture 16 as shown so that borders of adhesive will exist around the apertures 16.

Subsequently, release paper or the like sheets 24 are applied over the adhesive 22 until the position shown in Fig. 3 is reached. Any appropriate release paper such as silicone coated release paper may be used.

To define the security cards, the resulting laminate is die cut to define the shape of the periphery of each card, and Fig. 3 shows this arrangement. The die cutting is indicated by reference 26, and is such that basically a two part security card of flat construction is defined, one part being indicated as shown in Fig. 3 in the enlarged portion by the reference 28 and the other part being indicated by reference 29. A hinge line 30 separates the parts.

The die cutting is arranged so that considering part 28 it is

made up of a sheet of the substrate web 10 and its rear surface in Fig. 3 entirely covered by the material of the associated sheet 18, and the hinge line 30 is formed in the sheet 18. The sheet 18 also defines the part 29 in conjunction with the release sheet 24. The die cutting as shown in Fig. 3 to define the part 29 lies inside the boundary of the associated aperture 16, so that the part 29 will be made up entirely of a portion of the sheet 18 which overhangs the part 28, and the portion of the release material 24 defined by the die cutting.

The flat structure shown in Fig. 3 is used in the manner shown in Figs. 4 and 5.

The visible surface of the substrate sheet 10 in Fig. 3 as shown in Fig. 4 is provided with areas 32, 34 for the addition of the active information and the owner of the card inserts the information on the substrate section 10 as indicated for example in Fig. 4. Next, the user simply peels away the portion of release sheet 24 to expose the adhesive 22 on the overhanging cover section of sheet 18, and that section as shown in Fig. 5 is simply folded over onto the substrate sheet section 10 to be adhered thereto by virtue of the adhesive 22, and to seal the information 32, 34 by means of a transparent covering sheet. The transparent covering sheet of the sheet 18 also lies to the rear of the section of the substrate web 10 which becomes sandwiched between protective transparent covering sheets which are resistant to abrasion and a particularly advantageous card results.

The structure of the card may be modified in that the adhesive 22 may be placed on the other side of the sheet 18, and the card folded in the reverse direction, but that would not provide the advantage of having the covering sheet in opposite sides of the substrate section 10. Again, although

it is preferred that the sheet 18 should cover both sides of the substrate web section 10, this is not necessary and the sheet section 18 could be arranged only to partially overlap the part 28 of the substrate web 10.

The method of forming the cards may be varied. Thus, the adhesive may be applied to the sheets 24 which could be applied before the sheets 18.

CLAIMS

A security card comprising first and second elements interconnected so as to be foldable into face to face relationship so that each element has an inner side and a outer side, the first element being of a covering material enabling the second element to be viewed therethrough directly (or electrically or magnetically or the like) when the elements are folded face to face and the second element comprising a substrate material laminated to covering material integral with the covering material of the first element, the inner surface of the first element being provided with pressure sensitive adhesive covered by means of a removable release web, whereby active information placed upon the inner surface of the second element may be viewed through the first element after the release web is removed to reveal the adhesive, and the first and second elements are folded into face to face relationship so as to be sealed together by means of the adhesive.

2. A security card according to Claim 1, wherein the covering material is a plastics film.
3. A security card according to Claim 2, wherein the film is transparent when said viewing is by the eye or be opaque when viewing is by viewing apparatus.
4. A security card according to Claims 2 or 3, wherein the said plastic film comprises the entire first element and extends over the entire surface area of the second element and defines its outer surface so that, in the resulting security card, both faces of the card are defined by protective plastic film.
5. A security card according to Claim 1, 2, 3 and 4, wherein

the first and second elements are of rectangular configuration and are of identical outer dimension, and are directly hinged together by means of a fold line defined in the plastic film.

6. A security card substantially is hereinbefore described with reference to the accompanying drawings.

7. A security card produced in a flat form in a continuous stationery operation, said card comprising several flat layers as follows:-

- a) a substrate sheet,
- b) a covering sheet laminated to one side of the substrate sheet and having a cover portion which overhangs the substrate sheet, and
- c) a release sheet adhered to the cover portion to cover adhesive on one side of the cover portion,

whereby to use the card, the release sheet is removed and the cover portion is adhered to the substrate web by having its adhesive side folded onto the substrate sheet to cover and render secure information placed on the substrate web.

8. A security card according to Claim 7, wherein the covering sheet covers the entire side of the substrate web, and the cover portion may have a hinge line formed therein.

9. A security card according to Claim 7 or 8, wherein the covering sheet is of abrasion resistant, clear plastics material so that it forms a tough outer jacket for the card.

10. A security card according to Claim 7, 8 or 9, wherein the adhesive and release sheet are on the same side of the covering sheet as that which is laminated to the substrate web.

11. A method of producing the security cards wherein the cards are produced as continuous stationery on a substrate web in accordance with the following sequence:-

- a) apertures are provided in the web at spaced intervals,
- b) to opposite sides of the web and covering said apertures are applied covering material and a release web so that the covering material and release web are adhered by adhesive through said apertures and at least the covering material is also adhered to the substrate web, and
- c) die cutting the web to define first and second card elements, and preferably a hinge therebetween, so that the first elements lie within the boundaries of said apertures and the second elements include said substrate web and at least a portion of said covering material.

12. A method of producing security cards substantially as hereinbefore described with reference to the accompanying drawings.

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Patents Act 1977
Examiner's report to the Comptroller under
Section 17 (The Search Report)

Application number
GB 9314114.1

Relevant Technical fields	Search Examiner
(i) UK CI (Edition L) B6A (AK)	K R STRACHAN
(ii) Int CI (Edition 5) B42D	
Databases (see over)	Date of Search
(i) UK Patent Office	
(ii) ONLINE DATABASES: WPI	29 SEPTEMBER 1993

Documents considered relevant following a search in respect of claims 1 TO 12

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
A	GB 2254045 A (WADDINGTON'S)	
X	US 5173080 (MOORE) - see Figures 1, 4, column 1 lines 7 to 22, column 3 lines 18 to 46, column 4 lines 23 to 39	1-5, 7-10
X	US 4986868 (WALLACE) - see Figures 8 and 9, column 3 lines 33, 38 to 45	1-5, 7-10

Category	Identity of document and relevant passages	Relevant to claim(s)

Categories of documents

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